38910

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: :
                                               :   Appeal No._____
HIEN D. MA et al.   :
                                               :   Group Art Unit: **3621**
Serial No.: **09/388,926**   :
                                               :   Examiner: **Calvin L. Hewitt, II**
Filed: **September 2, 1999**   :
                                               :
For: **METHOD AND APPARATUS FOR**   :
     PROVIDING PREPAID MUSIC CARD FOR   :
     DECIPHERING RECORDED BROADCAST   :
     AUDIO SIGNALS   :

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

RECEIVED

AUG 0 6 2003

GROUP 3600

Sir:

Transmitted herewith in triplicate is Applicant's Brief on Appeal in the above-identified application.

The items checked below are appropriate:

☒   Appeal brief fee (37 C.F.R. 1.17(c))

    ☒   other than small entity - $320.00
    ☐   small entity - $160.00
        ☐   Applicant claims small entity status. 37 CFR 1.27.

☒   Applicant(s) petition(s) for an extension of __2__ month(s) to respond and submits herewith the fee of **$410.00**.

☒   A check in the amount of **$730.00** is attached.

☒   The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 18-2220. A duplicate copy of this sheet is attached.
        ☒   Any additional excess claim fees under 37 C.F.R. § 1.16.
        ☒   Any additional patent application processing fees under 37 C.F.R. § 1.17.

08/04/2003 EFLORES 00000036 09388926

01 FC:1252   410.00 OP

Christian C. Michel
Reg. No. 46,300

Roylance, Abrams, Berdo & Goodman, L.L.P.
1300 19th Street, N.W., Suite 600
Washington, D.C. 20036
(202) 659-9076

Dated: _August 1, 2003_

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of :

HIEN D. MA et al. : Appeal No. _____

Serial No.: 09/388,926 : Patent Art Unit: 3621

Filed: September 2, 1999 : Examiner: Calvin L. Hewitt, II

For: METHOD AND APPARATUS FOR :
PROVIDING PREPAID MUSIC CARD FOR :
DECIPHERING RECORDED BROADCAST :
AUDIO SIGNALS :

BRIEF ON APPEAL

Christian C. Michel
Reg. No. 46,300
Roylance, Abrams, Berdo & Goodman, L.L.P.
1300 19th Street, N.W., Suite 600
Washington, D.C. 20036
(202) 659-9076

TABLE OF CONTENTS

38910

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of   :

HIEN D. MA et al.   :   Appeal No. _____

                                                 :
Serial No.: 09/388,926   :   Patent Art Unit: 3621

                                                 :
Filed: September 2, 1999   :   Examiner: Calvin L. Hewitt, II

                                                 :
For: METHOD AND APPARATUS FOR   :
     PROVIDING PREPAID MUSIC CARD FOR :
     DECIPHERING RECORDED BROADCAST :
     AUDIO SIGNALS   :

BRIEF ON APPEAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

For the appeal to the Board of Patent Appeals and Interferences from the decision of

December 11, 2002 finally rejecting claims 1-20 in the above-identified application, Appellant

submits the following brief in accordance with 37 C.F.R. § 1.192.

I. Real Party in Interest

The real party in interest in this application is assignee XM Satellite Radio Inc. This application was assigned to XM Satellite Radio Inc. by the inventors in an assignment recorded on October 5, 1999 at Reel 10285, Frame 0931.

II. Related Appeals and Interferences

There are no other related appeals or interferences known to Appellant, Appellant's legal representative, or Assignee, which would directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of the Claims

Claims 1-20 are pending and claims 1-20 are on appeal.

IV. Status of the Amendments

Appellant filed an Amendment After Final on April 1, 2003. The Advisory Action mailed April 9, 2003 indicated that the Amendment would be entered on filing of an appeal. Accordingly, the claims reproduced in the Appendix reflect these amendments.

V. Summary of the Invention

The present invention is a method and apparatus for receiving digital audio radio service (DARS) signals, such as satellite radio signals, and for recording broadcast segments, such as complete songs, in exchange for monetary credits stored on a prepaid music card or the like. The DARS signal advantageously comprises auxiliary data embedded that is operable to accurately

identify a beginning of a broadcast segment. In this manner, a user is able to record a complete song, without portions of the song missing, or portions of a previous or next song erroneously included in the recording, in exchange for a fee deducted from a prepaid music card for example. In one embodiment, recording and deduction of monetary credit occurs only if a beginning of the desired broadcast segment is stored in a buffer. In this way, users are not charged for a song which is missing the beginning portion.

VI. Issue for Review

The following issues is presented for review.

1.   Whether claims 1-20 are obvious, and thus, not patentable under 35 U.S.C. § 103(a) over U.S. Patent No. 5,790,935 to Payton in view of U.S. Patent No. 6,272,535 to Iwamura, U.S. Patent No. 5,757,909 to Park and U.S. Patent No. 6,363,440 to Stepp et al.

VII. Grouping of the Claims

The rejected claims do not stand or fall together. Each of independent claims 1, 10 and 13 are separately patentable and each of the dependent claims are patentable for the reasons discussed herein.

VIII. Argument

In the April 9, 2003 Advisory Action, the proposed amendment was entered, and amended claims 1-20 were rejected under 35 U.S.C. §103(a) as being obvious of U.S. Patent No. 5,790,935 to Payton, in view of U.S. Patent No. 6,272,535 to Iwamura, U.S. Patent No. 5,757,909 to Park, and finally U.S. Patent No. 6,363,440 to Stepp et al. The Examiner suggests

that the entered amendment is not sufficient to place the claims in condition for allowance, and in particular points to Column 4, Lines 1-67 of Stepp et al.

Payton is cited as teaching a virtual on-demand digital information delivery system comprising a receiver that receives an encrypted digital signal, memory for storing an encrypted digital signal, a recorder for recording onto a recording medium, a recording medium player, a plurality of recording mediums that record deciphered digital signals, a combined player and recorder, the decryption of encrypted signals, and storing encrypted digital signals in a memory device as it is being received. The Examiner admits that Payton does not recite a buffer connected to a receiver or determining whether a beginning of a signal is in the buffer and recording the signal if the beginning is present.

The Examiner cites Stepp et al. as teaching a signal recording method and apparatus comprising a buffer connected to a receiver for storing at least a portion of the signal, determining whether a beginning of a signal is present in the buffer and recording the signal to a recording medium if the beginning of the desired signal is present. However, the Examiner admits the neither Payton nor Stepp et al. teach payment cards.

The Examiner cites Iwamura as teaching a user terminal for receiving digital content, where the terminal is associated with an accounting apparatus. The Examiner also cited Iwamura as teaching an accounting apparatus that deducts value from a card that stores monetary credits, that determines whether a card has sufficient value and allows a user to add value to the card in order to access data.

The Examiner cites Park as teaching the use of encryption keys and utilizing smart cards to decrypt digital signals transmitted to a user terminal. The Examiner argues that it would be obvious to combine the teachings of Payton, Stepp et al., Iwamura, and Park to implement a

- 4 -

system in which users can record a program in its entirety from the beginning even though the decision to record the program occurs after the program starts and has been broadcast for a non-zero duration. Furthermore, the Examiner contends that it would have been obvious to pay for access using the smart card and accounting of Iwamura.

For the reasons discussed below, the claimed invention is not obvious over the combination of references cited by the Examiner.

A. **None of the cited references teach receiving a signal that already has embedded data operable to allow determination of the actual start time of a broadcast segment.**

Applicants respectfully disagree that Stepp et al. teaches receiving an information signal which includes pre-embedded auxiliary data sufficient to identify a start time of a broadcast segment, and recording a broadcast segment in exchange for a deduction of credits on a prepaid music card only if the beginning of the broadcast segment is present in a buffer. On the contrary, Stepp et al. teaches away from the present invention by specifically describing a system in which start time data is *inserted* into the information signal *at the receiver*. While on first glance, column 4 of Stepp et al. appears to disclose an information signal the includes embedded information, including start time data, a closer inspection reveals important distinctions between Stepp et al. and the present invention.

In particular, column 4 of Stepp et al. refers to an "information signal" which "may include information regarding the content of the information signal . . . [f]or example, the time at which the information signal is initially broadcast (i.e. the start time) may be encoded into the information signal." However, Stepp et al. does not distinguish *when* the "information regarding the content of the information signal" is embedded in the signal. A review of the remainder of the specification reveals that Stepp et al. teaches a method in which start time data is determined

- 5 -

at the receiver and the start time data is inserted into the video signal. Furthermore, the term "information signal" is used in Stepp et al. to refer to both the signal before being processed at the receiver, and after being processed, including "tagging" the information signal with start time data.

The insertion of start time data at the receiver, rather than embedding data identifying the start of a broadcast segment at the broadcast station, is inherently inaccurate. In the context of recording television signals, which is the focus of the Stepp et al. invention, broadcast segments are typically programs which begin and end either on the hour, or on the half-hour. Even in this context determining the start time at the receiver, without reference to a start time embedded in the signal at the broadcast station, would lead to inaccurate recordings. First, if the receiver clock is off, the recording will be similarly inaccurate. Thus, if a broadcast begins at 4:00 pm, but the receiver's clock is five minutes late, the receiver would "tag" the beginning of the broadcast information signal at 4:05 pm, rather than at 4:00 pm. Thus, a user who wanted to record this program would miss the first five minutes.

Furthermore, even if the receiver clock is accurate, broadcast transmission times often occur at some offset from the scheduled time. As an example, sporting events often run longer than schduled. The president sometimes comes on television to make an unscheduled address. As a result, the subsequent program often starts several minutes after the normally scheduled time. Thus, a program scheduled to begin at 9:00 pm may in fact begin at 9:15 pm. Using the device and method described by Stepp et al., the recorder would "tag" the information signal at 9:00 pm. Thus, a recording would actually capture the last 15 minutes of a prior program and the first portion of the desired program, which actually began at 9:15 pm rather than at 9:00 pm.

Both of these problems are particularly disadvantageous in a system intended to require payment in exchange for the ability to record a broadcast segment, such as an individual song. Users willing to pay for content will expect an accurate recording from start to finish, without the beginning or the end of their requested segment being cut off, and without the trailing portion of the previous segment included at the beginning or their requested segment, or the initial portion of the following segment included at the end of their requested segment.

Both of the above illustrated disadvantages of Stepp et al. are exacerbated in the context of music radio. Music radio typically consists of a series of songs that have varying lengths. Broadcast segments also include commercials, as well as portions with a D.J. or host talking or otherwise making announcements. Thus, due to the random, less predictable scheduling of broadcast segments in radio, a system and method in which the receiver "tagged" the received information signal would be particularly disadvantageous.

The present invention solves the above problems by embedding auxiliary data, including information operable to identify the start of each broadcast segment, into the signal before it is broadcast, and in particular, before it is received at a receiver. Thus, the receiver need not accurately keep a clock in order to know when broadcast segments begin. Furthermore, the receiver need not assume that broadcast segments start at regular intervals, such as half-hours. Devices according to an embodiment of the present invention identify a beginning of a broadcast segment in a digital signal and store the digital signal in a buffer. If the user wants to record the in-progress broadcast segment, the receiver determines whether the *actual* beginning of the segment, as encoded by the broadcasting station, exists in the buffer. If the beginning is present, the receiver is able to record the broadcast segment from the buffer, and as it continues to be received, until the beginning of the next broadcast segment is identified, indicating that the

recorded segment has ended. This method is more accurate, because the receiver does not rely on any assumptions.

Stepp et al. teaches away from the present invention. Stepp et al. is intended to be used with existing broadcast transmission signals, such as television signals. The present invention is intended to work with specially designed DARS signals. The development of DARS signals, and the licensing of the portion of the electromagnetic spectrum allocated for DARS required considerable effort and expense, as detailed in the Declaration Under 37 CFR §1.132 submitted with the Amendment After Final on April 1, 2003. One of ordinary skill in the art, reading Stepp et al., would not be motivated to develop a special signal, and to license a particular band, where Stepp et al. teaches use of existing television and other broadcast signals.

In view of the above arguments, Stepp et al. can not be deemed to teach receiving a digital audio radio service (DARS) signal comprising auxiliary data operable to identify a beginning of a broadcast segment, the auxiliary data being embedded in the signal prior to the signal being received. None of the remaining references teach this either. Furthermore, because Stepp et al. in fact teaches away from this concept, and because this element is missing entirely from all of the references cited by the Examiner, independent claims 1, 10 and 13 are not obvious.

B. **One of ordinary skill in the art would not be motivated to combine the references cited by the Examiner**

A prima facie obviousness determination requires a showing of the motivation to combine the teachings of the prior art to obtain the claimed method or apparatus. *In re Dembiczak*, 48 USPQ2d 1614 (Fed. Cir. 1999). Obviousness cannot be established by showing

that the teachings can be combined, where the motivation to make the combination is lacking. Obviousness requires a showing that one skilled in the art would be lead to make the proposed modification in the manner proposed by the Examiner.
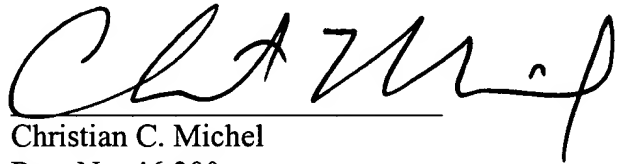
One of skill in the art would not be motivated to combine Stepp et al. with Iwamura or Payton. While Stepp et al. teaches receiving and contemporaneously buffering a broadcast signal, Iwamura and Payton are directed to on-demand or on-request systems. One looking to alter or improve a system for buffering live broadcast transmissions, as in Stepp et al., would not be likely to look to the on-demand art. The mere fact that the prior art can be modified does not make the modification obvious, unless the art suggests the desirability of the modification. See *In re Laskowski*, 871 F.2d 115, 10 USPQ 2d 1397 (Fed. Cir. 1989). Both the suggestion and the expectation of success must be found in the prior art, not in the Applicant's disclosure. *In re O'Farrell*, 853 F.2d 894, 7 USPQ2d 1673 (Fed. Cir. 1988).

It is well established that there must be some motivation or incentive in the cited art to combine the teachings as suggested in the Action. None of the cited art discloses a receiving a DARS signal with auxiliary data operable to identify a beginning of a broadcast segment, the auxiliary data being embedded in the signal *prior to* the signal being received. The only suggestion of the claimed combination is in Applicant's disclosure. It is well established that obviousness cannot be established by using Applicant's disclosure to pick and choose between the various elements of the cited art. Identification in the prior art of each individual part of the claimed invention is insufficient to defeat patentability of the claimed invention as a whole. *In re Rouffet*, 47 USPQ2d 1453 (Fed. Cir. 1998).

IX. Conclusion

For the reasons discussed above, the combination of the cited art does not disclose or suggest the claimed system and method for receiving an encrypted digital signal comprising a digital audio radio service (DARS) broadcast segment with auxiliary data operable to identify a beginning of the broadcast segment, the auxiliary data being embedded in the signal prior to the signal being received. The primary cited reference, Stepp et al. teaches receiving a signal with embedded start time data, but teaches inserting the start time data *at the receiver*, rather than receiving an signal with auxiliary data operable to identify a start of a broadcast segment already embedded. Accordingly, the rejection of claims 1-20 is untenable. Reversal of the final rejection is requested.

Respectfully submitted,

Christian C. Michel
Reg. No. 46,300

Roylance, Abrams, Berdo & Goodman, L.L.P.
1300 19th Street, N.W., Suite 600
Washington, D.C. 20036
(202) 659-9076

Dated: July 31, 2003

APPENDIX - Copy of Claims on Appeal

1.   An apparatus for recording and playing a digital signal, comprising:

a receiver for receiving an encrypted digital signal comprising a digital audio radio service broadcast segment comprising auxiliary data operable to identify a beginning of said broadcast segment, said auxiliary data being embedded in said encrypted digital signal prior to said signal being received;

a buffer connected to said receiver for storing at least part of said digital signal as it is being received;

a recorder connected to said receiver for recording onto a first recording medium said encrypted digital signal in response to a user request if a beginning of said broadcast segment is in said buffer;

a player for playing said first recording medium and connected to a card reader; and

a card having a predetermined value for insertion into said card reader;

wherein when said card is inserted into said card reader, said card reader verifies that said predetermined value is at least a selected minimum value and authorizes said player to decipher said encrypted digital signal from said first recording medium and to record said deciphered signal onto one of said first recording medium and a second recording medium.

2.   The apparatus of claim 1, further comprising:

a key to decipher said encrypted digital signal, said key being stored in one of said card and a memory device in said player.

3.   The apparatus of claim 2, wherein said player is a combination player and recorder, and further comprising:

a second recording medium configured to have said deciphered digital signal recorded thereon.

4.   The apparatus of claim 3, wherein the first recording medium and the second recording medium are the same.

5.   The apparatus of claim 1, wherein said cart is a smart card having at least one of a memory device for storing monetary credits, and an integrated circuit for storing information.

6.   The apparatus of claim 1, wherein said card has a memory device for storing said predetermined value, and said card reader is operable to deduct said selected minimum value from said predetermined value stored in said memory device.

7.   The apparatus of claim 1, wherein said digital signal is a digital audio broadcast signal.

8.   The apparatus of claim 1, wherein said card is a prepaid smart card.

9.   The apparatus of claim 8, wherein monetary value can be added and subtracted from said smart card.

10.   A method for recording and playing digital signals, comprising:

receiving an encrypted digital signal comprising a digital audio radio service broadcast segment comprising auxiliary data operable to identify a beginning of said broadcast segment, said auxiliary data being embedded in said encrypted digital signal prior to said signal being received;

storing said encrypted digital signal in a buffer as it is being received;

determining whether a beginning of said broadcast segment is in said buffer in response to a user request to record said encrypted digital signal;

recording said encrypted digital signal onto a first recording medium in a recorder and player device if said beginning of said broadcast segment is stored in said buffer;

inserting a card having at least a predetermined value into said recorder and player device;

determining that said predetermined value corresponds to at least a selected minimum value; and

deciphering said encrypted digital signal and recording said deciphered signal onto one of said first recording medium and a second recording medium if said card has said selected minimum value.

11. The method of claim 10, further comprising the step of recording said deciphered signal onto at least one of said first recording medium and a second recording medium.

12. The method of claim 10, wherein said card has a memory device for storing said predetermined value, and further comprising the step of deducting said selected minimum value from said memory device.

13.   A method for recording and playing an encrypted digital audio broadcast signal,

comprising:

receiving an encrypted digital audio radio service broadcast signal comprising a digital

audio broadcast segment comprising auxiliary data operable to identify a beginning of said

broadcast segment, said auxiliary data being embedded in said encrypted digital signal prior to

said signal being received;

storing at least part of said encrypted digital audio broadcast signal in a buffer as it is

being received;

electing to record said encrypted digital audio broadcast signal onto a first recording

medium;

determining whether said beginning of said broadcast segment is in said buffer; and

recording said encrypted digital audio broadcast signal onto said first recording medium

if said beginning of said broadcast segment is stored in said buffer.

14.   The method as claimed in claim 13, wherein said encrypted digital audio broadcast signal

is not recorded if said predetermined portion of said encrypted digital audio broadcast signal is

not stored in said memory device.

15.   The method of claim 13, further comprising the steps of:

inserting a card provided with a monetary amount into a card reader connected to said

recorder and player;

verifying that said monetary amount corresponds to a selected minimum value; and

deciphering said encrypted digital audio broadcast signal on said first recording medium if said card has said selected minimum value.

16. The method of claim 15, further comprising the step of adding a monetary amount to said card at one of a card vendor location and an automated teller machine.

17. The method of claim 15, further comprising the step of adding a monetary amount to said card over a computer network connection.

18. The method of claim 15, further comprising the step of playing said deciphered digital audio broadcast signals.

19. The apparatus of claim 6, wherein said card reader is adapted to deduct said selected minimum value from said card only if said beginning of said broadcast segment was in said buffer.

20. The method of claim 10, further comprising the step of determining whether to deduct value from said card based on whether said beginning of said broadcast segment was in said buffer.